



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,621	03/01/2004	Siegfried Gronbach	S. Gronbach 2 (LCNT/12588)	8832
46363	7590	07/27/2006	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			NGUYEN, TUAN N	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,621

Applicant(s)

GRONBACH, SIEGFRIED

Examiner

Tuan N. Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 9, 10 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of 35 U.S.C. 102(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6, 8, 11-16 is rejected under 35 U.S.C. 102(a) as being unpatentable over O'Brien et al. (US 6560255).

With respect to claims 1, 5, 11, O'Brien et al. '255 shows and discloses an apparatus for temperature stabilization of a wavelength of a laser (*Title and Abstract*), comprising: a laser power supply; a laser chip assembly comprising: a laser chip; a wavelength locker comprising an etalon of the wavelength (*Fig 1: 14, 18 laser module and source, 32 internal etalon wavelength locker*)(*Col 2: 50-63*); a module controlling a temperature of the laser chip and the etalon (*Col 3: 50-67 temperature control device 54 TEC or thermoelectric cooler/heater in contact with the optical subassembly 22 to control temperature of laser and the etalon, that belong in the same sub-assembly [Fig 1: 22, 32, 18]*) ; and a sensor of a representative temperature (*Col 3: 59-62-temperature of the sub-assembly [Fig 1: 44 thermistor]*); and a temperature controller, comprising: a calculator of the wavelength, the calculator coupled to the wavelength locker and comprising a memory of a correction factor compensating for thermal instability of the etalon; a power supply facilitating a temperature set point of the module, and a processor coupled to the calculator and the sensor and defining a set point of the power supply (*Fig 1: 12 PC temperature controller having memory of a correcting factor "control algorithm", calculating the wavelength*

Art Unit: 2828

to compensate for the etalon [fig 1: 42 ref. P.D & 44- thermistor feedback to PC] and calculate a set point for the power supply [fig 1: 80 TEC current driver] which is the summation of the feedback and correction factor which inherently designed so no overshoot and undershoot can occurs during initial operation) (Col 1: 34 – look up table). Since claim 1 recites the same or identical elements/limitations it is inherent to use patent ('255) to recite the method of stabilization of a laser wavelength, product by process.

With respect to claims 2, 4, 12 wherein the representative temperature *is a temperature selected from the group* consisting of a temperature of the laser chip, temperature of the etalon, a temperature of the module, a temperature of a submount housing the laser chip and the etalon, and a temperature of a medium between the laser chip, the etalon, and the module (Col 3: 50-67; Col 4: 1-6 –temperature of sub-assembly or laser chip).

With respect to claims 3, 15, 16 wherein the correction factor is determined using a wavelength meter coupled to an output of the laser outside the laser chip assembly and the correction factor is determined prior to operating the laser in an optical transmission system [fig 1: correction factor of the PC using wavelength feedback 38, 50, or 40 that is output from the laser which is outside the laser chip sub-assembly 22](Col 1: 34 – look up table).

With respect to claims 6, 13, wherein the sensor comprises a thermistor or a thermocouple [fig 1: 44 thermistor].

With respect to claims 8, 14, wherein the etalon measures the wavelength using a method, comprising: defining of a ratio between a first electrical signal proportional to an output power of the laser at an input of the etalon and a second electrical signal proportional to the output power of the laser at an output of the etalon [fig 1: 60, 62, 64 first electrical signal to controller at the input of the etalon, and 38 is the second electrical signal at the output of the etalon].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or non-obviousness.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien et al. (US 6560255). O'Brien et al. '255 discloses the above, the claim further require wherein an accuracy of the external meter is equal or greater the accuracy of the internal etalon. O'Brien '255 did not

discreetly disclose the accuracy of the external meter or accuracy of the internal etalon, however, it has been held that where the general conditions of a claim are disclosed in the prior art, disclosing the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Allowable Subject Matter

5. Claims 9, 10, and 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The references of the record fail to teach or suggest apparatus and method of stabilization of a laser wavelength:

Claims 9, 17:

Comprising a laser power supply, a laser chip, an etalon wavelength locker, temperature controller, and correction factor from wavelength detector comprising – 1) measuring the etalon wavelength/ external meter wavelength/ and the representative temperature, 2) modifying the bias current of the laser chip, and adjusting the representative temperature until the external meter measures the same wavelength at the external meter, and 3) defining a difference with the representative temperature until the external meter measures the same wavelength at the external meter, then use the etalon to measure the wavelength.

Claim 10:

The laser chip and internal etalon disposed on the sub-mount, having temperature sensor and temperature control module for the chip and etalon, having a photodetector of an optical signal proportional to a laser output power at an input of the internal etalon, and a photodetector

at the output of the internal etalon comprising – measuring the internal etalon and representative temperature of the laser, where the correcting factor for the etalon is from the external meter, and the represent temperature at a set point is equal to a sum of the wavelength measured using the internal etalon and the correction factor.

Response to Argument

6. Applicant's arguments filed on 05/09/2006 have been fully considered but they are not persuasive.

With respect to the Remark on page 6 of 9, applicant traverses the rejection by pointing out that O'Brien '255 reference fails to teach or suggest the step of *“operating a module defining the representative temperature at a set point corresponding to a generation of an optical power at a wavelength equal to a sum of the wavelength measured using the internal etalon and the correction faction”*. The applicant continues to point out on page 7 of 9 “O'Brien is silent regarding the use of a correction faction to control temperature, even though O'Brien does discuss internal etalon, but doe not disclose within the context of temperature stabilization”. The examiner stands O'Brient '255 discloses and shows the method and apparatus using internal etalon controlling laser in context of temperature control as shown in (FIG 1: 32, 36 ETALONs, 48, 45 TEC, THERMISTOR feedback to PC controller 12) and controlling module inherently has correction factor to control the laser output as desire. The examiner read the claims given their broadest reasonable interpretation consistent with the specification. However, it is not proper to read limitations appearing in the specification into the claim when these limitations are not

recited in the claim. The reference disclosures was taken as a whole, and evaluated by what they suggest to one of ordinary skill in the art.

Conclusion

7. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication Information

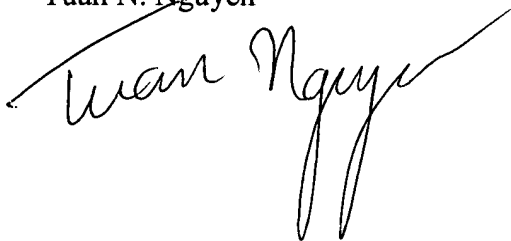
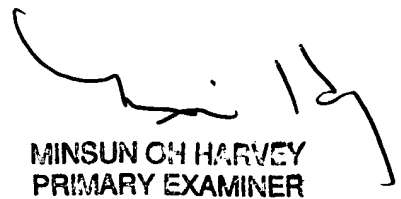
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a long horizontal stroke extending to the left.A handwritten signature in black ink, appearing to read 'Minsun Oh Harvey', with a long horizontal stroke extending to the right.

**MINSUN OH HARVEY
PRIMARY EXAMINER**